Chapter 2 — Hazardous Waste and Hazardous Waste Determination

HAZARDOUS WASTE

The legal definition of a hazardous waste is: "A waste that, because of its concentration, quantity, or physical, infectious, or chemical characteristics may cause or contribute to increase mortality or illness or pose a present or potential hazard to human health or the environment" {Health & Safety Code (HSC) Section 25124}. If your process produces a hazardous waste you are classified as a generator of hazardous waste. It is very important for you to understand what makes a waste hazardous. Failure to properly classify your waste can have grave consequences for you and your business.

Is Your Waste Hazardous? [1]

The following are some basic questions you need to answer when determining if your waste is hazardous.

- ✓ Is your waste ignitable? Does it burn easily?
- ✓ Is your waste toxic? Will it produce injury, illness, or harm if inhaled, swallowed, or if it gets on the skin?
- ✓ Is your waste reactive? Will its vapors burn or explode when exposed to air or water?
- ✓ Is your waste corrosive? Will it burn skin or eyes on contact or "eat away" containers?
- ✓ Is your waste listed in the Chapter 11, Appendix X list in the Title 22 of the Code of California Regulations (CCR)?

Is your waste a RCRA Hazardous Waste or a California Hazardous Waste? [2]

There are two categories of hazardous waste in California. Hazardous waste is classified either as RCRA (federally-regulated) or non-RCRA. To properly store, treat, and dispose of your hazardous waste, it is important to determine whether your hazardous waste is RCRA or non-RCRA. If you answer yes to any of the following questions, your waste may be considered to be a RCRA hazardous waste:

- ✓ Is my waste listed in CCR, Title 22, Chapter 11, Article 4 (List of RCRA Hazardous Wastes)?
- ✓ Does my waste have any of the characteristics of a hazardous waste (ignitable, corrosive, toxic*, reactive)?
- ✓ Does my waste come from or is mixed with a hazardous waste from the RCRA List?

*California has a more strict definition for "toxicity" than RCRA and California's "list" includes more wastes and chemicals. If your waste is not a RCRA hazardous waste, you need to determine if it meets the criteria for a hazardous waste in California (non-RCRA).

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HAZARDOUS WASTE CLASSIFICATION [3]

It is the generator's responsibility to determine whether the waste generated at his/her facility is a hazardous waste or not. Plating shops generate a variety of hazardous and non-hazardous waste streams. Some such as spent plating baths are relatively easy to classify as hazardous waste due to the obvious metals content or the fact that they are acids or bases. Others such as rinse water and grinding dust are more difficult to classify, because they are mixtures. These mixtures of several products may also be subjected to various chemical and physical processes, which may add trace concentrations of regulated metals. As an example, the grinding rouges typically used to polish chrome bumpers contain both zinc and copper at levels that make the resulting dust hazardous even without the chrome and cadmium contribution from the bumper itself. Very low levels of metals such as chrome and zinc can make a waste stream hazardous. These levels may not be obvious based on reviews of MSDSs and specification sheets and may require chemical analysis to determine actual chemical concentrations.

Waste determinations for rinses and spent baths must be done for each individual waste stream (each bath or rinse tank), at the point of generation. Wastewaters are commonly combined at plating shops for processing through an onsite wastewater treatment system. These individual waste streams must be individually classified at the point where they exit the process tank and first become a waste, not after they are commingled with other rinse water. Analysis of the post-treated effluent, which is done to meet Industrial Wastewater Pre-Treatment Standards to allow the waste to be discharged to the sewer, is not a waste determination for hazardous waste regulations. The list of chemicals being monitored is different and even the metals that are monitored under both programs require different tests (analytical methods).

A generator may determine that the waste streams from his/her particular facility or operation are or are not a hazardous waste by either:

I. Testing the waste according to the methods set forth in the regulations; and/or

II. Applying knowledge of the hazardous characteristic(s) or properties of the waste in light of the materials or the processes used and the criteria set forth in the hazardous waste regulations.

I. Testing [4]

Performing analytical testing and maintaining test results is the best way to document a waste determination. The testing criteria are specified in Title 22, Division 4.5, of the California Code of Regulations (CCR).

A non-hazardous designation will apply only under the following conditions when testing is performed:

- ✓ Representative sampling (multiple samples) of the material is conducted in accordance with procedures specified in Section One of "Test Methods for Evaluating Solid Waste,

Physical/Chemical Methods" SW-846, 3rd Edition, U.S. Environmental Protection Agency, 1986.

- ✓ The samples are delivered to the lab with a "Chain of Custody" document which indicates the sample type, date/time sample was taken, sample size, source of the waste, quantity of the waste, the type of sample container, place and address of collection, and the name and signature of collector.
- ✓ A laboratory following the analytical procedures outlined in CCR Title 22, Division 4.5 conducts the analysis. The generator certifies in writing that the analytical procedures used are consistent with those specified in CCR Title 22 and that the waste is categorized as non-hazardous by the criteria specified in CCR Title 22. The laboratory must be certified to perform the specific waste analysis by the State of California Department of Health Services.

The County of San Diego Department of Environmental Health Hazardous Materials Division (HMD) recommends you obtain the services of a qualified and experienced environmental consultant who can assist you in the sampling of the waste and laboratory analysis of the samples.

II. Knowledge of Process (KOP) / Self Classification [5]

A facility may use knowledge of process to determine if a waste is hazardous or non-hazardous, this is also called "self classification" of the waste. The information and process utilized to make the determination should be documented. The final determination should be made in writing. If a facility classified a waste as non-hazardous based on KOP, and the waste is actually hazardous the facility may be subject to enforcement action.

The following should be considered as part of the review process for making a waste determination using knowledge of process:

- ✓ The California and Federal hazardous waste laws and regulations.
- ✓ Detailed chemical information for all the chemicals and materials utilized in the process generating the waste should be available (quantities, concentrations, and types of materials and chemicals in use in the process). Information sources include, but are not limited to Material Safety Data Sheets, (keep in mind that trace quantities of metals and toxic chemicals may be present that are not listed on MSDSs), manufacturer's information, and process operations procedures and/or manuals.
- ✓ A detailed review of the generating process and the resulting waste streams at the point of generation.
- ✓ All documentation utilized to make the determination should be included in the operating record associated with the waste stream.
- ✓ Carefully evaluate the information gathered and make a written determination.

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A good waste determination made by a generator at the point of generation and backed up with supporting documentation and a signed waste classification statement that the waste is non-hazardous should be acceptable. However, regulatory agencies retain the authority to sample the waste to ensure that the classification was performed correctly, if the results indicate that the waste is hazardous, the generator faces enforcement action.

RE-CLASSIFICATION

If materials or processes change once a waste is classified, a re-classification must be completed. It is the generator's responsibility to correctly classify the waste including any changes to the process that may change the composition of the waste. The sampling conducted by landfill operators, hazardous waste inspectors, and by the industrial wastewater program is to confirm the waste classification, not make the determinations.

REFERENCES

1. Title 22, California Code of Regulations (CCR) Section 66261.20 to Section 66261.50
2. Title 22, CCR Section 66261.100 and Section 66261.101
3. Title 22, CCR Section 66262.11
4. Title 22, CCR Section 66261.20(c) and Section 66262.1
5. Title 22, CCR Section 66262.11, Section 66262.40(c), and Section 66260.200

Handbook for the Analysis and Classification of Wastes
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SW-846 Test Methods for evaluating Solid Waste, Physical/Chemical Methods
GPO publication No. 955-001-00000-1
US EPA, Office of Solid Waste
Washington DC.
http://www.epa.gov/SW-846/

RCRA Waste Sampling Draft Technical Guidance
EPA530-D-02-002
US EPA, Office of Solid Waste
Washington DC.
http://www.epa.gov/epaoswer/hazwaste/test/pdfs/rwsdtg.pdf